

Chapter 1

Environmental Protection and Military Operations

“An emerging class of transnational environmental issues are increasingly affecting international stability and consequently will present new challenges to US strategy.”

National Security Strategy, July 1994

The US military’s primary mission is to defend the US—its people, its land, and its heritage. National security strategy now includes specific environmental security concerns. Strategic and operational end states support lasting victories. End states include environmental components. Additionally, the American people expect the Army and Marine Corps to manage the financial, human, and natural resources entrusted to them in a responsible manner. The policy and vision of the Army and Marine Corps on these issues, as well as your responsibilities as leaders, are critical to understanding how to address *military environmental protection*.

BACKGROUND

1-1. Strategic factors influencing international security and stability have dramatically changed. Global population and industrial activity have grown geometrically, and technological advancement has accelerated. These phenomena have begun to shift the foundations of strategic analysis, fundamentally altering the relationships between the human population and the supporting natural resources. *Operational Terms and Graphics* (FM 101-5-1/MCRP 5-2A) defines the natural environment as “the human ecosystem, including both the physical and biological systems that provide resources (i.e., clean air, clean water, healthy surroundings, sufficient food) necessary to sustain productive human life. Included in the natural environment are manmade structures, such as water and waste water treatment facilities and natural/cultural resources”.

CONTEXT OF ENVIRONMENTAL PROTECTION

1-2. Conflict caused or aggravated by resource scarcity is not new. What was once a local or regional problem may now extend globally. Resource scarcity could reduce the ability of governments to respond to the basic needs of their people. The resulting instability can threaten regional security and lead to armed interventions.

ENVIRONMENTAL RESOURCES AS A CAUSE OF CONFLICT

1-3. Strategic resources (i.e., minerals, oil, or coal) have often been catalysts of conflict. The widespread distribution and product substitution associated with a global economy tend to mitigate scarcity. Renewable or “sustainable” resources—such as clean air, water, croplands, or forests—are more difficult to replace and can be a regional catalyst of instability.

1-4. Environmental degradation, natural disasters, famines, health epidemics, and changes in climate can threaten a nation’s economy and send populations across borders as refugees. For example, construction of a series of dams on the Senegal River made river-bottom farmland suitable for high intensity agriculture. Mauritian Moors abandoned cattle production in their degraded grazing areas to migrate to the river valley where a struggle ensued over the farmland. In a similar situation, soil degradation and population growth in Chiapas, Mexico generated peasant migrations to upland hillsides. Population overload, combined with the lack of capital to protect the local ecosystem, caused severe environmental resource scarcity.

1-5. In both examples, environmental resource scarcity, caused by degradation or depletion of renewable resources, encouraged groups to capture these resources or migrate to find adequate resources. Environmental resources can contribute to the potential for conflict when they become environmental threats or strategic goals.

Environmental Threats

1-6. Environmental threats intensify regional instability. In Haiti, dwindling resources were central to the social collapse of the island nation. Almost totally deforested, its poor croplands were divided into smaller and less productive parcels with each generation. Haiti’s population of seven million, already unsustainable by every measure, is expected to double in the next 18 years.

1-7. Environmental threats to stability and security might result from acts of war or terrorism (i.e., the destruction of infrastructure facilities providing water or fuel). The threats (i.e., polluting the rivers or air that flow into another country) may also result from the routine activities of an industrial society.

1-8. The actions associated with developing a national infrastructure, such as building a dam, which cuts off water to downstream neighbors, may contribute to regional instability and conflict. Regional environmental threats can trigger events leading to conflict or deepening poverty. These types of situations encourage citizens to seek violent solutions.

1-9. Security from these environmental threats includes protective measures for natural resources; safety measures for soldiers/Marines whether at home station or deployed; and offensive, defensive, and support actions when required to meet national security goals. Environmental threats will confront theater commanders in the form of natural resource issues as strategic and operational factors before, during, and after future conflicts.

National Strategic and Security Interests

1-10. Resources such as minerals, oil, and water often possess strategic significance. Access to sufficient energy supplies is of vital national interest to a nation when it becomes industrialized. The importance of resources was certainly demonstrated in the actions that the US and other nations took to form a coalition and conduct the actions associated with Desert Shield and, subsequently, Desert Storm.

1-11. Water has been a strategic resource since the beginning of recorded history. In the Middle East, three or more countries share all of the major river basins. Each of these countries now faces the possibility of severe water scarcity during the next decade and beyond.

1-12. In the West Bank, population growth in the Jordan River basin increased demand for the scarce supply of freshwater. Overpumping the aquifers depleted the water supply and degraded some aquifers by causing saltwater intrusion from the Mediterranean. Because 40 percent of Israel's groundwater originates in the former occupied territories, Israel sought to protect its water supply by limiting water use during the occupation of the West Bank. The stringent restrictions on water use imposed upon Jordan, Syria, and Lebanon became another point of tension in the conflict during the 1960s to 1970s. Although the intensity of that issue has been moderated, it continues to be a major concern.

1-13. Countries rely on natural resources to achieve political ends. A country overexploiting its own resources by deforestation or polluting a neighboring country's air or water may cause corresponding increases in regional tensions.

ENVIRONMENTAL PROTECTION AS A NATIONAL ETHOS

1-14. As outlined in FM 100-1, the nation's ethos translates into national policy, national security strategy, and military strategy. The US has often been the first nation to search for solutions to environmental problems. Americans believe continued environmental degradation presents a potential short- and long-term threat to their safety and well-being. They have demanded and supported national and international environmental protection efforts.

1-15. As environmental protection becomes increasingly important to Americans, it assumes a growing significance to operational readiness. US military forces must maximize environmental compliance and restoration efficiency to preserve funds for force structure, modernization, and training.

1-16. Operational readiness depends on sufficient land for training individuals and units. The Army and the Marine Corps manage large training and testing areas, which are increasingly valuable as part of a diminishing inventory of undeveloped land. Often, the health of the surrounding natural ecosystem also depends on the natural habitat of these training or testing areas. Fortunately, protecting and preserving these undeveloped spaces serves the interests of both operational readiness and the natural habitat. Good conservation techniques preserve training areas for future military use and reduce compliance and restoration costs.

ENVIRONMENTAL PROTECTION AS AN IMPACT ON SAFETY, FORCE PROTECTION, AND ENVIRONMENTAL HEALTH

1-17. Environmental protection tends to be viewed according to its effect on the natural environment. While this focus is appropriate, it is essential to understand the linkages between the effect on the environment and their associated impacts on safety, force protection, and force health protection as these effect soldiers and Marines. These linkages are identified in FM 100-10, FM 100-14, medical doctrine (FM 8-10, FM 8-55, FM 21-10, FM 21-10-1, see Chapter 7), and an increasing number of other doctrinal manuals. The term *military environmental protection* includes the understanding of this linkage.

ENVIRONMENTAL COMPLIANCE AS A REGULATORY REQUIREMENT

1-18. Heightened environmental concern has led all federal agencies, including the DOD, to consider the environmental consequences of proposed actions to avoid costly litigation and remediation requirements. Compliance with environmental laws and regulations is now a necessary cost of doing business. The Army and the Marine Corps comply with all environmental laws and regulations applying to installations or theaters of operation (TOs).

1-19. The sources of environmental laws influencing the actions of US military forces include federal, state, local, and HN laws, as well as international treaties. Appendix A provides an overview of the key environmental laws, regulations and treaties applicable to unit level operations. These come from a variety of sources to include federal, state, local host nation, executive order, Department of Defense policies and directives, and international agreements.

ETHICAL IMPLICATIONS AS A FUNCTION OF ARMY VALUES

1-20. From every philosophical or moral perspective, environmental stewardship is the right thing to do. As more demands are made on the shrinking resource base, the ethical issues become clearer. The US military has always accepted and internalized its role as a moral, as well as a physical force. Senior leaders must create ethical climates in which subordinate leaders recognize that the natural resources of the earth are not inexhaustible, and they must take responsibility to protect the environment. FM 22-100 defines ethics as principles or standards that guide professionals to do the moral or right thing. To help subordinates live according to Army values, leaders enforce rules, policies, and regulations. This ethical climate is the same climate that guides the decisions to be made in areas such as the law of land warfare. Ethical behavior is not restricted to merely following the letter of the law when it comes to specific written laws, regulations, and treaties. It captures the ethos that caused those laws to be generated in the first place. By educating subordinates and setting the example, leaders enable their subordinates to make ethical decisions that, in turn, contribute to excellence.

1-21. Considering the environmental effects of training, operations, and logistics activities reduces environmental damage and costs. Habitually protecting the environment ensures that land will continue to be available to conduct realistic training and that environmental problems will not disrupt operations. Environmental protection must be recognized in material acquisition procedures,

training, and facilities operations. In short, it must be an institutional and personal ethic. To be successful, soldiers and Marines must practice pollution prevention as a proactive measure rather than just a mere compliance or reaction to laws and regulations. “Doing the right thing is good. Doing the right thing for the right reason and with the right intention is even better” (FM 22-100).

“Everyone must protect and conserve the natural environment as an individual responsibility. Seemingly minor infractions by individuals, particularly in cumulative effect, can have major effects on human health and natural habitat—or upon operating budgets. Leaders must set the example as well as to strictly enforce environmental policy and regulations. Environmental responsibility involves all of us. The environmental ethic must be part of how we live and how we train.”

General Dennis Reimer, 1995, Chief of Staff, US Army

THE ARMY AND MARINE CORPS ENVIRONMENTAL STRATEGIES

1-22. Governmental rules and regulations do in fact influence the strategies of the Army and Marine Corps. Therefore it is important for subordinate commanders to understand the commander’s guidance from his respective chain of command. Success will be achieved through the commitment of the chain of command, as well as organizing for success, spreading the environmental ethic, training and educating the force, prioritizing resources, and harnessing market forces by purchasing environmentally benign materials whenever possible. A discussion of the rules and regulations is provided in Appendix A.

MISSION STATEMENTS

1-23. “The Army will develop and implement cost-effective measures to protect and sustain the environment in support of military operations, installation management, and materiel development.”

1-24. “The two most important national functions of the Marine Corps are to make Marines and win battles. Training is integral to the performance of these functions. By respecting and maintaining the natural resources entrusted to the Marine Corps, the training opportunities enjoyed by today’s Marines will be available to future generations of Marines.”

VISION STATEMENTS

1-25. “The Army will integrate environmental values into its mission to sustain readiness, improve the soldier’s quality of life, strengthen community relationships, and provide sound stewardship of resources.”

1-26. “Marine Corps environmental programs enhance military readiness, protect the health of military and civilian personnel living and working abroad Marine corps installations, and protect the environmental quality of the installation and adjacent communities to support future activities.”

“The Marine Corps shall actively protect and enhance the quality of the environment through strict compliance with all applicable regulatory requirements.”

MCO P5090.2A

“The Army is committed to environmental stewardship in all actions as an integral part of the Army mission.”

AR 200-1

ENVIRONMENTAL STEWARDSHIP GOALS

1-27. Environmental protection is no longer the province of a few technical experts. It requires soldiers and Marines to prevent environmental problems by caring for those resources entrusted to them by the American people. This responsibility includes financial, material, and environmental stewardship. Environmental stewardship, the wise use and management of environmental resources, is a natural outgrowth of the military's role as protector of US national security. The following are goals for responsible environmental stewardship:

- Demonstrating leadership in environmental protection and improvement, including pollution prevention.
- Ensuring that consideration of the natural and cultural environment is an integral part of decision-making.
- Minimizing adverse natural environment and human health impacts while maximizing readiness and strategic preparedness.
- Initiating aggressive action to comply with all applicable federal, state, local, and HN environmental laws.
- Supporting pollution prevention programs, which includes periodically reassessing products and processes that generate pollution, reusing and recycling materials, and avoiding hazardous waste (HW) generation.
- Managing all military controlled lands, natural and cultural resources, and remediate areas contaminated by past activities.
- Enhancing outreach activities with local communities by openly addressing environmental quality issues.

1-28. Everyone, from the commander in chief to the newest recruit and every civilian employee, must apply stewardship to his area of responsibility. However, implementing service-wide stewardship requires an environmental protection strategy. The strategy's goals and objectives focus on four pillars:

- Compliance - Give immediate priority to sustained compliance with environmental laws.
- Prevention - Focus efforts on pollution prevention to reduce or eliminate pollution at the source.

- Conservation - Conserve and protect natural and cultural resources so they will be available for present and future generations to use.
- Restoration - Simultaneously continue to restore previously contaminated sites as quickly as funds permit.

ENVIRONMENTAL PILLARS

1-29. The principal duty of soldiers and Marines is not protecting the environment. However, they accomplish this requirement as part of their other duties. In those rare instances where real or perceived conflict exists between environmental protection and mission accomplishment, commanders and individuals must make informed decisions. Unit commanders, leaders at all levels, and individual soldiers/Marines must understand the pillars for environmental protection.



Compliance: Taking Care of Today's Problems

1-30. The essence of compliance is obeying the law. Compliance includes all activities that ensure operations and activities meet federal, state, local, and applicable HN environmental requirements. These requirements include laws and regulations for waste water discharge, noise abatement, air quality attainment, and solid waste and HW management.

Prevention: Minimizing Problems for Tomorrow

1-31. Eliminating pollution at the source is usually much easier and less costly than dealing with hazardous materials (HM) or their aftermath. Pollution is a liability, and clean up is an overhead cost that must be controlled. Avoiding or reducing pollution saves the military resources that will enhance readiness. Pollution prevention includes all phases of the material management life cycle from concept development to final disposition. Prevention is generally achieved through the following:

- Reducing the amount of waste produced. This may include using smaller amounts of toxic materials or replacing them with less toxic substitutes. On a larger scale, it may include changing operating methods by

increasing efficiency or preventing accidents that generate waste and residue.

- Reusing materials whenever possible. Reusing items is more cost efficient than recycling. Reuse entails using an item in its current form. Refilling containers, filtering solvents, or reusing subassemblies reduces the amount of waste that must be treated and disposed.
- Recycling products. This entails changing the physical composition of the item by melting it down or shredding it for use in other processes. Recycling, while less efficient than reuse, may be the only alternative for several types of waste. Many installations sponsor recycling programs to support morale, welfare, and recreation activities.

Conservation: Sustaining Resources for the Next Generation

1-32. Conservation includes two types of resource management: controlled use and preservation. Controlled use focuses on managing military land to ensure long-term natural resource productivity. Preservation focuses on protecting natural and cultural resources (to include endangered species) by maintaining them in their current state. Renewable resources, such as timber or training land, require controlled use. Nonrenewable resources, such as historic monuments or endangered species, require preservation. The military must balance these demands in a responsible effort to conserve natural resources and still maintain readiness.

Restoration: Taking Care of Yesterday's Problems

1-33. Restoration includes all activities necessary to clean up contaminated military sites. Most military units do not perform restoration; normally, environmental staffs and contractors perform this function. However, to make installations safer and healthier places for soldiers, Marines, and their families, the services are cleaning up contaminated sites. By following the principles of the other three environmental strategies, soldiers and Marines help minimize the need for restoration.

"Preventing environmental problems is always more cost-effective (in dollars) than trying to clean them up after the fact. During the deployment to Desert Shield, one installation spent \$1,000,000 to clean up HW improperly left behind by individuals in deploying units. Environmental protection is the smart thing to do, and it is the right thing to do."

After-Action Report, Operations Desert Shield and Desert Storm

Program Area Integration

1-34. The four environmental program areas—compliance, prevention, conservation, and restoration—**apply to all military activities**. During peacetime, they ensure that military lands are available for mission training; during contingency operations or combat, they support strategic goals and desired endstates. At all times, these program areas protect the safety and health of soldiers/Marines, and their families.

ENVIRONMENTAL RESPONSIBILITIES

1-35. Commanders, staffs, subordinate leaders, and soldiers/Marines must understand their individual duties and responsibilities for environmental protection and become environmental stewards. To practice stewardship, US military personnel must understand the basic environmental management responsibilities that apply to their work area or assigned duties.

UNIT RESPONSIBILITIES

1-36. Installation regulations or operational directives, such as operation plans (OPLANs), operation orders (OPORDs), or contingency plans (CONPLANs), generally define a unit's environmental program. (See Appendix B for an example of the Environmental Considerations Appendix to an Army plan). Standing operating procedures (SOPs) usually establish a unit's environmental plan. (See Appendix C for an example SOP). These documents integrate installation and operational requirements into daily routines. Unit-level environmental management always includes guidance for commanders, staffs, subordinate leaders, soldiers, and Marines.

Commanders

1-37. The commander's role in environmental stewardship centers on instilling an environmental ethic in their soldiers, Marines, and civilians under their control. Commanders train their subordinate leaders on stewardship, counsel them on doing what is right, lead by example, and enforce compliance with laws and regulations. Sources of environmental assistance available to commanders are identified in Appendix D.

1-38. Commanders will meet with key installation environmental personnel to obtain information on and assistance with environmental protection issues to include setting up a unit program. Commanders should also turn to these personnel for detailed guidance on regulatory compliance, environmental assessments, and to review environmental problems common to other commanders on the installation or in the unit.

1-39. The primary point of contact should be located at the installation's environmental office. This office is normally part of the Directorate of Public Works (DPW) at Army installations, the facilities or base engineer office on Marine Corps installations, or the State Area Command (STARC) for the National Guard.

"All Marine commanders should emphasize environmental awareness and incorporate environmental compliance into every aspect of how they conduct business, taking affirmative steps to make compliance happen."

General J.L. Jones, Commandant, 1999
White Letter 03-99

“In my Commandant’s Planning Guidance (CPG), I presented a road map that describes where I am leading the Marine Corps...”

These Marine Corps principles are basic to our nature and critical to our existence. These realities are not relative or subject to compromise. They are inalterable and universally applicable.

Expressions of these principles may be found in the way we maintain our installations, utilize our resources, and comply with our Nation’s laws concerning the environment. Instituting good management practices, conserving resources, and obeying the law have always been a part of our moral character. Marines are good neighbors. Marines are efficient. Marines are informed. Marines take care of their own. Marines are disciplined.

In these days of public concern for the environment and diminishing resources, we are afforded new opportunities to apply our Marine Corps principles to new avenues of excellence. We will meet our responsibilities by being exemplary world citizens as we maintain and improve our position as the world’s premiere fighting force. That’s what’s expected of us – we’re Marines.”

General C. C. Krulak, Commandant of the Marine Corps, 1997

1-40. The Directorate of Logistics (DOL) (Army) or the G-4 (Marine Corps), the safety office, and the supporting Defense Reutilization and Marketing Office (DRMO) may also provide commanders with environmental information.

1-41. When deployed, commanders will often deal with the phenomenon known as the base camp. Base camps, while not installations, are comparable to small towns and require many of the considerations applied to installations. A mayor (often the headquarters, headquarters company [HHC] commander) assists the base camp commander with control of base operations. A Base Camp Coordination Agency (BCCA) will provide expertise and support to the commander, largely through its subordinate Base Camp Assistance/Assessment Team (BCAT). Environmental expertise is resident or aligned with this team and available to support the base camp commander and the designated mayor of the base camp, provide technical recommendations, and maintain appropriate standards. More information about this phenomenon is provided in the recently published Center for Army Lessons Learned (CALL) Newsletter 99-9, *Integrating Military Environmental Protection*.

1-42. Army Regulation (AR) 200-1, Marine Corps Order (MCO) P5090.2A, the Army’s *Commander’s Guide to Environmental Management*, and the Marine Corp’s *Commander’s Guide to Environmental Compliance and Protection* specify commanders’ environmental responsibilities. To carry out these responsibilities, commanders do the following:

- Comply with an installation’s environmental policies and legally applicable and appropriate federal, state, and local laws and regulations or country-specific final governing standards (FGS) if outside the continental United States (OCONUS).

- Demonstrate a positive and proactive commitment to environmental stewardship and protection.
- Provide environmental training required by law, regulation, or command policy.
- Ensure that all personnel can perform their duties in compliance with environmental laws and regulations, and can respond properly to emergencies.
- Promote proactive environmental measures and pollution prevention.
- Supervise compliance with environmental laws and regulations during operational, training, and administrative activities.
- Include environmental considerations in mission planning, briefings, meetings, execution, and after-action reviews (AARs). (See Appendix E.)
- Understand the requirements of Army/Marine Corps environmental programs. (See Chapter 5.)
- Identify and assess the environmental risks of proposed programs and activities. (See Chapter 2 and Appendixes F and G.)
- Coordinate unit activities with higher headquarters' (HQs) environmental elements.
- Appoint and train an environmental compliance officer (ECO) and an HW coordinator for the unit.
- Ensure that SOPs contain all environmental considerations and regulatory requirements appropriate for the level of command. (See Appendix C.)
- Conduct environmental self-assessment or internal environmental compliance assessments. (See Chapter 5 and Appendix H.)
- Understand the linkages between environmental considerations and their associated impact on safety, force protection, and force health protection. (See Chapter 7.)

Unit Staffs

1-43. Whether developing the staff estimate, protection levels, or environmental baseline survey (EBS), environmental protection requires active participation from each staff member. Environmental factors may affect or influence a wide range of activities or require a significant expenditure of resources. A single point of contact (POC) for all environmental considerations is neither effective or efficient.

1-44. Unit staffs have inherent responsibilities within their areas of expertise that require environmental actions. While some of these responsibilities may

depend on the command or commander, all staffs undertake many of them. Unit SOPs at battalion and company levels incorporate specific responsibilities. Of particular importance at the unit level is the Army ECO, and the Marine Corps military occupational specialties (MOS) 9631 and 9954, addressed on page 1-16.

1-45. The unit staff also integrates environmental considerations into the planning and execution processes. These staff officers have specific environmental protection responsibilities. Common staff duties provide the basis for some environmental responsibilities, while FM 101-5 provides a basis for others. Additional staff officer environmental responsibilities are as follow:

Chief of Staff (CofS), Executive Officer (XO)

1-46. As the commander's principal staff officer, the Chief of Staff (CofS) directs staff tasks, conducts staff coordination, and ensures efficient and prompt staff response. The CofS is responsible for supervising the staff's integration of risk management for all planning and the execution of operations. As a supervisor, the CofS ensures all staff members analyze operational effects on the environment and assess the environmental status as the G3 integrates environmental planning and execution into operations in the same manner as safety is integrated.

Coordinating Staff

1-47. Military services historically integrate planning factors into multiple staff agencies to ensure operational coordination. With environmental considerations, as with the protection of noncombatants, the command is best served when the functional staff includes them in planning and execution. Coordinating staff officers each have specific environmental protection responsibilities derived from common staff duties, specific responsibilities of the position as described in FM 101-5, the coordinating responsibility of special staff officers. The following are the principal environmental responsibilities of coordinating staff officers:

Assistant Chief of Staff, G1 (S1), Personnel

1-48. As the principal staff officer for all matters concerning human resources and personnel, the G1 ensures that the command has the requisite expertise to fulfill environmental requirements. Depending on the level of the command, experts may include both military and civilian personnel. As the coordinating staff officer for the surgeon, the staff judge advocate (SJA), and the public affairs officer (PAO), the G1 coordinates environmental issues between them and across the staff.

Assistant Chief of Staff, G2 (S2), Intelligence

1-49. As the staff officer responsible for conducting intelligence preparation of the battlefield (IPB) and defining and characterizing the area of operation (AO), the G2 is responsible for incorporating significant environmental factors. These environmental factors are provided by the engineer coordinator (ENCOORD) and other staff elements.

Assistant Chief of Staff, G3 (S3), Operations

1-50. The G3 is the principal staff officer for all matters concerning training, operations, and plans. It the G3's responsibility to ensure that any significant collateral environmental damage caused by command directed operations is understood and approved by the commander in the military decision-making process (MDMP).

1-51. The G3 establishes and supervises the command training programs. These programs include environmental skill and awareness training that support the unit mission. He also ensures that the unit protects and maintains training areas. As the overall ground manager and planner of troop movements, bivouacking, and quartering, the G3 understands and considers environmental vulnerabilities during operations.

1-52. The G3 may assign special missions to tactical units to secure and safeguard critical environmental resources, such as wastewater treatment plants in urban areas. When appropriate, the G3 prepares counterterrorism and security plans to combat possible environmental sabotage. The G3 exercises coordination staff responsibility over the ENCOORD, the leading special staff officer for many environmental protection actions.

Assistant Chief of Staff, G4 (S4), Logistics

1-53. As the principal staff officer for coordinating the logistic integration of supply, maintenance, and services for the command, the G4 oversees many functions with a potential for generating HW. The G4 establishes procedures for reducing and controlling HM. He recommends command policies for solid waste and HW/HM disposal. The G4 also recommends command policies for pollution prevention and, in coordination with the G3, oversees the preparation of spill prevention and response plans.

1-54. In the exercise of staff planning and supervision of food, bath, and laundry services, the G4 ensures that the staff exercises and implements appropriate controls over wastes and effluents. The G4 is responsible for constructing facilities and installations and for controlling real property, including EBSs, upon occupation and redeployment.

1-55. The G4 coordinates property disposal actions such as disposal of HM and HW (to include medical waste). The G4's office tracks disposal actions on the unit's document register, prepares appropriate turn-in documentation, and maintains turn-in receipts. To perform these actions, the G4 coordinates with appropriate DOD activities—defense reutilization and marketing office (DRMO), defense logistics agency (DLA), or the LOGCAP.

Assistant Chief of Staff, G5 (S5), Civil-Military Operations

1-56. As the principal staff officer for all matters concerning civil affairs, the G5 is familiar with the relationships between the local populace and their environment. These relationships include elements of the underlying causes of the conflict, threats to public health, and critical vulnerabilities to disruption of environmental services such as clean water or useable croplands.

1-57. In conjunction with the SJA, the G5 advises the commander on his legal obligations concerning the local populace. In many areas of the world, these obligations include protecting critical environmental resources. He is responsible (along with the SJA) for being familiar with local environmental laws, especially in overseas deployment areas. The G5 may also supervise civil affairs units assisting local governments with environmental protection services. He also serves as the focus of coordination for HN support and indigenous labor and coordinates with the SJA on civilian claims against the US government for environmental damage.

Special Staff

1-58. Special staff officers have functional environmental responsibilities. The following are the key special staff officers with environmental protection expertise and responsibilities:

Surgeon

1-59. The surgeon advises the commander and the staff on regional health matters within the commander's area of interest. He advises on the effects of the health threat, including environmental, endemic, and epidemic diseases. The surgeon also has direct access to environmental, preventive medicine, and public health services. He provides health risk assessment guidance to support the commander's risk management decision-making process. The surgeon relates the effects of environmental hazards to the environmental health of soldiers and Marines. In more demanding situations, he can rely on the capabilities of the Theater Army Medical Laboratory (TAML) and the US Army Center for Health Promotion and Preventive Medicine (USACHPPM) to assist him in providing recommendations to the commander. The commander and the unit staff may call on the surgeon to assist in determining the public health implications of damage to critical environmental resources. See Chapter 7 for additional information on health and the environment.

Chemical Officer

1-60. The chemical officer (CHEMO) is the special staff officer responsible for the use of and requirement for chemical assets, NBC defense, and smoke operations. A chemical officer is at every echelon of command. The CHEMO integrates chemical reconnaissance assets to assist in performing site assessments. In conjunction with the surgeon, the CHEMO advises the commander on possible hazards (such as low-level radiation and toxic industrial material) and their effects on personnel and equipment.

Engineer Coordinator

1-61. The ENCOORD is the special staff officer for coordinating engineer assets and operations for the command. As the senior engineer officer in the force, the ENCOORD advises the commander on environmental issues. Working with other staff officers he determines the impact of operations on the environment and integrating environmental considerations into the decision-making process. The ENCOORD works with the G4 in performing site assessments for installations and facilities. He and the SJA advise the commander on the

necessity for environmental assessments to meet HN or executive order (EO) 12114 requirements. The ENCOORD is also responsible for advising the G2/S2 of significant environmental factors and ensuring these impacts are integrated into the IPB process.

Transportation Officer

1-62. The transportation officer plans and supervises administrative movements. When these movements contain HM or HW, he ensures that unit personnel follow applicable laws and regulations. These requirements include: manifesting cargo, inspecting loads, segregating loads, marking vehicles, and arranging for hazardous cargo routes (as necessary).

Maintenance Officer

1-63. The maintenance officer plans and supervises maintenance and repair activities. In many instances, these activities use significant quantities of HM and generate HW. The maintenance officer ensures safe use, storage, and disposal of these materials, that often includes operating temporary storage areas for products such as used oils, contaminated fuels, paint residues, spill cleanup residues, and solvents. Since maintenance personnel work with hazardous chemicals, the maintenance officer must ensure that all personnel comply with hazardous communications (HAZCOM) requirements.

Personal Staff

1-64. Some staffs have personal officers who work under the immediate control of the commander and therefore have direct access to him. The commander establishes guidelines or gives specific guidance to the personal staff officer who informs, or coordinates with, the chief of staff or other members of the staff.

Staff Judge Advocate

1-65. The SJA advises the commander on compliance with environmental laws, regulations, treaties, and conventions. He also writes or interprets status of forces agreements (SOFAs). The SJA helps determine environmental assessment requirements and manages civilian claims resulting from environmental damage. He helps other staff officers to understand the legal aspects involved in their respective specialties.

Public Affairs Officer

1-66. Public perceptions of environmental threats may be more significant to mission accomplishment than the threat itself. The PAO advises the commander on methods of conveying information to and responding to information from the public. When deployed overseas, the PAO coordinates with appropriate staff and commanders to plan and execute public relations efforts in support of mission objectives. In the continental United States (CONUS), various environmental laws require public involvement. The PAO identifies and prepares plans for meeting these requirements.

Additional Duties

Environmental Compliance Officer (Army)

1-67. The key to fulfilling environmental requirements successfully at the unit level is the ECO. AR 200-1 directs all Army unit commanders to “appoint and train ECOs at appropriate levels to ensure compliance actions take place.” In units where there is a staff officer with similar responsibilities, he will usually be given this additional duty. In company-sized units, this duty will generally translate into an extra duty. The ECO manages environmental issues within the unit level and ensures environmental compliance. He also coordinates through the respective chain of command with the supporting installation environmental staff to clarify requirements and obtain assistance.

1-68. The ECO accomplishes environmental compliance requirements on behalf of the commander. He also coordinates with supporting installation environmental staff to clarify requirements and obtain assistance. While this position of responsibility is not a formal staff position, the ECO is critical to the commander’s environmental program. The ECO does the following:

- Advises the unit on environmental compliance during training, operations, and logistics functions.
- Serves as the commander's eyes and ears for environmental matters.
- Coordinates between the unit and higher/installation headquarters’ environmental staffs.
- Manages information concerning the unit’s environmental training and certification requirements.
- Performs unit environmental self-assessment inspections.
- Performs environmental risk assessments.

Environmental Engineer/Management Officer (Marine MOS 9631)

1-69. The 9631 MOS is assigned duties at many of the Corps’ major installations and Major Subordinate Commands (MSCs). As a trained environmental professional, the 9631 provides linkage between Commanding Generals/ Officers and the civilian regulatory community. The 9631 can be a valuable asset in planning operations and exercises by providing an environmental perspective while maintaining mission awareness.

HW/HM Marine (MOS 9954)

1-70. The HW/HM Marine is the Marine Corps equivalent of the Army ECO. Marines holding the MOS 9954 provide unit-level expertise regarding the safe use of HMs and the environmentally compliant disposal of HW. Unit TOs reflect the MOS as a “required additional” for designated line numbers. These Marines have received formal training that meets federal requirements for HW handlers and have the following general responsibilities:

- Coordinating and conducting unit-level environmental awareness training in concert with the installation comprehensive environmental training and education (CETEP) coordinator.
- Ensuring unit compliance with all applicable federal, state, and local laws and regulations regarding HW/HM.
- Providing a link between unit commanders and installation-level environmental staff.
- Providing advice to unit commanders regarding HW/HM.

1-71. Specific duties for both Marine Corps MOSs are fully outlined in the current version of MCO P1200.7.

Subordinate Leaders

1-72. The role of leaders in environmental stewardship centers on building an environmental ethic in their soldiers and Marines by training and counseling subordinates on environmental stewardship, leading by example, and enforcing compliance with laws and regulations. Leaders do the following:

- Communicate the Army/USMC environmental ethic to soldiers and Marines while training them to be good environmental stewards.
- Develop and sustain a positive and proactive commitment to environmental protection.
- Identify environmental risks associated with individual, collective, and mission essential task list (METL) task performance. (See Chapter 2.)
- Plan and conduct environmentally sustainable actions and training.
- Protect the environment during training and other activities.
- Analyze the influence of environmental factors on mission accomplishment.
- Integrate environmental considerations into unit activities.
- Train peers and subordinates to identify the environmental effects of plans, actions, and missions.
- Counsel soldiers and Marines on the importance of protecting the environment and the possible consequences of not complying with environmental laws and regulations.
- Ensure that soldiers and Marines are familiar with the unit SOPs, and supervise their compliance with laws and regulations.

- Incorporate environmental considerations into AARs.
- Understand the linkages between environmental considerations and their associated impact on safety, force protection, and force health protection. (See Chapter 7.)

Soldiers and Marines

1-73. Soldiers and Marines have the inherent professional and personal responsibility to understand and support their service's environmental program. They must do the following:

- Comply with environmental requirements in unit and installation SOPs.
- Maintain environmental awareness throughout daily activities.
- Provide recommendations to the chain of command on techniques to ensure compliance with environmental regulatory requirements.
- Identify the environmental risks associated with individual and team tasks.
- Support recycling programs.
- Report HM and HW spills immediately.
- Make sound environmental decisions based on guidance from the chain of command, training, and personal concepts of right and wrong.

SUMMARY

1-74. National security strategy now includes specific environmental security concerns. Environmental resources can and do contribute to the potential for conflict when they become environmental threats or strategic goals. Environmental protection and military operations go hand in hand. Strategic and operational end states support lasting victories. End states include environmental components. While locations and conditions will vary, the guiding principles remain constant.

1-75. The Army environmental vision states, "The Army will develop and implement cost effective measures to protect and sustain the environment in support of military operations, installation management, and materiel development." The American people expect the Army and Marine Corps to manage the financial, human, and natural resources entrusted to them in a responsible manner. Compliance with environmental laws and regulations is now critical to the future availability of environmental and training resources. The Army and the Marine Corps comply with all environmental laws, regulations and policies, and commander's guidance applying to installations or TOs. Considering the environmental effects of training, operations, and logistics activities reduces environmental damage and costs. Commanders, staffs,

subordinate leaders, and soldiers/Marines must understand their individual duties and responsibilities for environmental protection and become environmental stewards. They must also understand the linkages between environmental considerations and their associated impact on safety, force protection, and force health protection.

1-76. With the conditions now established to allow us to look at integrating environmental considerations into planning, we will apply this information to the planning process for the MDMP and the associated application of risk management as discussed in Chapter 2.